

# Transportation Workforce Development



## ITRE Educational Opportunities for Technicians and Engineers

### Fundamental Engineering Principles (FEP) Program

#### About the Program:

- 10 courses that introduce engineering fundamentals
- For technicians with little or no engineering background
- Live online virtual classroom
- Weekly graded tests
- 3-hour comprehensive final exam
- 7 to 12 weeks (varies by course)
- 3 hours per week (one half day)

#### Course Offerings:

##### FALL SEMESTER

Mathematics  
Solid Statics/Strength of Materials  
Fluid Mechanics  
Horizontal & Vertical Alignment

##### SPRING SEMESTER

Physics/Geotechnical  
Structure Design  
Hydraulics  
Highway Design

**Cost:** \$400 to \$700 per participant per course (varies by course length)



Contact us for more information: [itre.ncsu.edu/training](http://itre.ncsu.edu/training)

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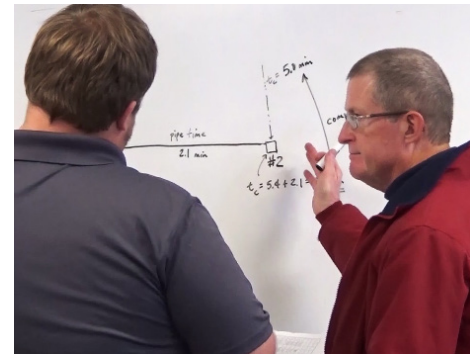
# Highway Engineering Concepts (HEC) Course Partnership

## About the Course Partnership:

- Partner with ITRE to provide an HEC capstone project-based course on site
- For technicians with FEP prerequisites: Math, Physics, and Horizontal and Vertical Alignment
- Students apply FEP skills to real world transportation engineering situations
- Weekly graded tests and projects
- 18 weeks (typical course length)
- 8 hours per week (one full day)

**Course Topics:** Transportation Planning; Highway Alignment and Design; Geotechnical Engineering; Statics; Strength of Materials: Structure Design; Hydraulic Engineering; and Traffic Operations

**Cost:** Varies by individual contract – contact us for more information



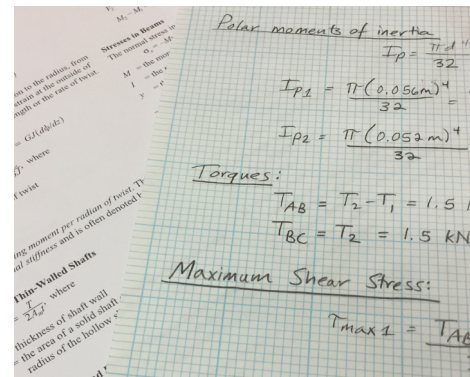
## Fundamentals of Engineering (FE) Civil Engineering Review Course

### The Course:

- 40 classes reviewing topics covered in the FE Exam
- For Civil Engineers meeting state eligibility requirements for the FE Exam
- Live online virtual classroom (pre-recorded option also available)
- 20 weeks
- 3 to 6.5 hours per week (one morning and one evening)

**Course Topics:** Test strategy; Math and Statistics; Statics; Dynamics; Mechanics of Materials; Fluid Mechanics; Engineering Economics; Ethics and Professional Practice; Computational Tools; Construction; Materials; Surveying; Transportation Engineering; Geotechnical Engineering; Structural Engineering; Hydraulic Engineering; and Environmental Engineering

**Cost:** \$905 per participant



## Professional Engineering (PE) Civil Engineering Review Course

### About the Course:

- 22 classes reviewing topics covered in the PE Exam
- For Civil Engineers who meet state eligibility requirements for the PE Exam
- Course offerings:
  - Self-paced online class (on-demand)
  - Tuesday night online live zoom class (May – November)
  - Friday/Saturday in-person class (January – April)
- 3 hours per class

**Course Topics:** Geotechnical Engineering; Water Resources; Structural Engineering; Construction and Materials; and Transportation Engineering

**Cost:** \$945 per participant



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